

## ABSTRACT OF THE DISCLOSURE

A heat emitting probe including a conductive nanotube probe needle with its base end fastened to a holder and its tip end protruded, a heat emitting body formed on the probe needle, a conductive nanotube lead wire fastened to the heat emitting body, and an electric current supply that causes an electric current to pass through the conductive nanotube lead wire and both ends of the probe needle. The tip end of the probe needle is thus heated by an electric current flowing through the heat emitting body. A heat emitting probe apparatus includes the above-described heat emitting probe, a scanning mechanism that allows the heat emitting probe to scan over a thermal recording medium, and a control circuit that causes the tip end of the probe needle to emit heat, thus recording extremely small hole patterns in the surface of a thermal recording medium.